Claims

1. A fluid handling pump adapted to be configured as either a plunger pump or a diaphragm pump comprising:

(a) a pump body comprising first and second bilaterally symmetrical halves joined together to form an enclosed cavity, each half including a tubular pipe member having first and second ends, one of said first and second ends on the tubular pipe member of the fist half being a low pressure fluid inlet port and one of said first and second ends on the tubular pipe member of the second half being a high pressure fluid outlet port, said enclosed cavity defining first and second transversely extending pockets, each in fluid communication with lumens of the tubular pipe members and a longitudinally extending pocket intersecting with the first and second transversely extending pockets;

(b) first and second reciprocally slidable connecting rod members disposed in the longitudinally extending pocket and having one of a plunger and a diaphragm at an outer end thereof;

(c) first and second valve assemblies fitted individually into the first and second transversely extending pockets, each of the first and second valve assemblies comprising a tubular valve casing supporting an inlet poppet valve and an outlet poppet valve in spaced apart relation in opposed ends of the tubular casing, the tubular casing of each of the first and second valve assemblies each including a central opening generally aligned with the one of the plunger and diaphragm employed; and

(d) an eccentric operatively coupled to the first and second reciprocally slidable connecting rod members.

2. The fluid handling pump of claim 1 wherein the pump body is an injection molded polyester plastic material.

3. The fluid handling pump of claim 1 wherein the pump body is a die cast metal.

4. The fluid handling pump of claim 2 wherein the plastic material comprises glass reinforced polybutylene terephthalate.

5. The fluid handling pump as in claim 1 and further including a motor having an output shaft coupled to said eccentric and a motor housing attached to the pump body.

6. The fluid handling pump as in claim 5 wherein the eccentric includes a ball-bearing set having an outer race and the first and second reciprocally slidable connecting rod members are connected together by an intermediately located shuttle member having a slot formed therein for receiving the outer race of the ball-bearing set therein.

7. The fluid handling pump as in claim 1 and further including carbon guide sleeves disposed in surrounding relation to the first and second reciprocally slidable connecting rod members where the carbon guide sleeves are captured in the longitudinally extending pocket and limit the movement of the connecting rod members to a rectilinear path.

8. The fluid handling pump as in claim 1 wherein the inlet poppet valves are disposed between apertures formed through a sidewall of the pipe member having the fluid inlet port and said central opening and the outlet poppet valves are disposed between apertures formed through a sidewall of the pipe member having the high pressure fluid outlet port and said central opening.

9. The fluid handling pump as in claim 1 wherein the tubular casing of the first and second valve assemblies each includes a frustoconical shaped flange surrounding said central opening, the flange adapted to engage the diaphragm about a periphery thereof when the fluid handling pump is configured as a diaphragm pump.

10. The fluid handling pump as in claim 1 wherein the tubular casing of the first and second valve assemblies each include a cylindrical sleeve surrounding said central opening that is adapted to retain a plunger brushing and a wiper seal when the fluid handling pump is configured as a plunger pump.

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